

CLAIMS

What is claimed is:

1. A system for monitoring semiconductor wafer tilt of a semiconductor wafer comprising:

one or more light sources, each light source generating light reflected by the wafer; and

one or more light detectors, each light detector sensing a detected light value of the light reflected by the semiconductor wafer, where the detected light value deviating from a normal value corresponding to no wafer tilt indicates that the wafer has tilted.

2. The system of claim 1, wherein the one or more light sources comprise only a single light source.

3. The system of claim 2, wherein the one or more light detectors comprise only a pair of light detectors.

4. The system of claim 3, further comprising a beam splitter to split the light generated by the single light source into a first light beam and a second light beam.

5. The system of claim 4, further comprising a beam bender to reflect the second light beam towards the semiconductor wafer.

6. The system of claim 4, wherein a first light detector of the pair of light detectors senses a first detected light value for the first light beam reflected by the semiconductor wafer, and a second light detector of the pair of light detectors senses a second detected light value for the second light beam reflected by the semiconductor wafer.

7. The system of claim 6, further comprising a comparator comparing the first detected light value and the second detected light value as an absolute difference, where the absolute difference deviating from a normal absolute difference corresponding to no wafer tilt indicates that the wafer has tilted.

8. The system of claim 1, wherein the one or more light detectors comprise only a single light detector.

9. The system of claim 8, wherein the one or more light sources comprise only a single light source.

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10. The system of claim 1, wherein the detected light value deviating from the normal value corresponding to no wafer tilt by more than a tolerance value indicates that the wafer has tilted.

11. A system for monitoring semiconductor wafer tilt comprising:

a light source generating light reflected by the semiconductor wafer;
a pair of light detectors each sensing a detected light value of the light reflected by the semiconductor wafer; and

a comparator to compare the detected light value sensed by each of the pair of light detectors as a wafer tilt value, where the wafer tilt value deviating from a normal value corresponding to no wafer tilt indicates that the wafer has tilted.

12. The system of claim 11, further comprising a beam splitter to split the light generated by the light source into a first light beam and a second light beam, a first of the pair of light detectors sensing the first light beam as reflected by the semiconductor wafer, and a second of the pair of light detectors sensing the second light beam as reflected by the semiconductor wafer.

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13. The system of claim 12, further comprising a beam bender to reflect the second light beam towards the semiconductor wafer.

14. The system of claim 11, wherein the wafer tilt value deviating from the normal value corresponding to no wafer tilt by more than a tolerance value indicates that the wafer has tilted.

15. A method for monitoring semiconductor wafer tilt of a semiconductor wafer comprising:

aiming one or more light beams against a semiconductor wafer for reflection by the semiconductor wafer;

sensing the one or more light beams after reflection by the semiconductor wafer as corresponding one or more light values; and

determining that wafer tilt of the semiconductor wafer has occurred where the one or more light values deviate from a normal value corresponding to no wafer tilt.

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16. The method of claim 15, further initially comprising:

ensuring that the semiconductor wafer has not tilted;

aiming the one or more light beams against the semiconductor wafer for reflection by the semiconductor wafer; and

sensing the one or more light beams after reflection by the semiconductor wafer as the normal value.

17. The method of claim 15, wherein determining that wafer tilt of the semiconductor wafer has occurred where the one or more light values deviate from the normal value corresponding to no wafer tilt comprises determining that wafer tilt of the semiconductor wafer has occurred where each of at least one of the one or more light values deviate from a corresponding normal value for the light value.

18. The method of claim 15, wherein determining that wafer tilt of the semiconductor wafer has occurred where the one or more light values deviate from the normal value corresponding to no wafer tilt comprises:

comparing the one or more light values as an absolute difference; and

determining that wafer tilt of the semiconductor wafer has occurred where the absolute difference deviates from a normal absolute difference.

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19. The method of claim 18, wherein determining that wafer tilt of the semiconductor wafer has occurred where the absolute difference deviates from the normal absolute difference comprises determining that wafer tilt of the semiconductor wafer has occurred where the absolute difference deviates from the normal absolute by more than a tolerance value.

20. The method of claim 15, wherein determining that wafer tilt of the semiconductor wafer has occurred where the one or more light values deviate from the normal value corresponding to no wafer tilt comprises determining that wafer tilt of the semiconductor wafer has occurred where the one or more light values deviate from the normal value by more than a tolerance value.